

U.S. Patent Application Serial No. **10/511,442**  
Amendment filed December 21, 2005  
Reply to OA dated June 21, 2005

**REMARKS**

Claims 1, 3, 5, 6, 8-13, 15-17 and 19-21 are pending.

The support for the amendments to the claims are as follows: Claim1: (Claims 1, 4 and 7); Claim 13: (Claims 4, 7 and 14); Claim 17 (Claims 4, 7 and 18); Claims 3, 5, 6, 8-12, 15-16 and 19-21: (grammar amendments). The applicants respectfully submit that no new matter has been added.

It is believed that this Amendment is fully responsive to the Office Action dated **June 21, 2005**.

**Claims 1-21 are rejected under 35 USC §102(e) as being anticipated by WO 01/72880, US 2003/0055118, and Brandoli et al. (6,759,444), each taken individually, but referred to as the group BRANDOLI ET AL. (Office Action p.2)**

**Claims 1-21 are rejected under 35 USC §102(e) as being anticipated by EP 1,219,674. (Office Action p.2)**

Claims 1, 13 and 17 have been amended to incorporate the subject matter of claims 2, 4 and 7 and are no longer anticipated by the cited references as explained below:

The applicants are now claiming a process and a composition containing at least one low-boiling halogen-containing compound defined by having a boiling point of about -90 to about 10°C and with thermal conductivity of the halogen containing compounds in the gaseous state is about 8 to about 30 mW/mK at about 1 atmospheric pressure and an organic blowing agent which further

comprises at least one member selected from the group consisting of glycol compounds and amine compounds.

The unexpected result of such a combination is explained in the specification from p.16, line 4 to p.17, line 7 as follows:

Also preferable herein are low-boiling halogen-containing compounds that are nonflammable and have a relatively low thermal conductivity and a boiling point of about -90 to about 10°C. The preferable thermal conductivity of such halogen-containing compounds, when they are in the gaseous state, is about 8 to about 30 mW/mK at about 1 atmospheric pressure. ***The use of such halogen-containing compounds can lower the partial pressure of the evaporated HFC365mfc (in particular, to a level below the lower limit of the flammability range).*** Moreover, since they are easily evaporated, such low-boiling compounds are preferably used in combination with glycol compounds and/or amide compounds (glycol compounds, in particular). ***The addition of glycol compounds and/or amide compounds enhances the compatibility*** of HFC-365mfc and halogen-containing compounds with system solutions. ***Due to the enhanced compatibility, the evaporation of a blowing agent composed of HFC-365mfc and halogen-containing compounds, particularly low-boiling halogen-containing compounds, from the premix can be discouraged. The greater the extent the halogen compounds can be retained in the premix,*** the greater the partial pressure of the halogen-containing compounds that can be maintained, thereby readily maintaining the effect of inhibiting HFC-365mfc ignition. Moreover, improved compatibility enables urethane linkage with an enhanced conversion rate, allowing uniform foams to be produced. (Emphasis added)

Basically the addition of glycol compounds and/or amide compounds to the blowing agent reduces the evaporation of the blowing agent.

This is nowhere disclosed in the prior art and therefore not anticipated by the prior art. For example, the composition of Brandoli (USP 6,759,444; US 2003/0055118 and WO 01/72880) is a reaction product of a) a polyisocyanate component; and b) a polyol composition; in the presence of

U.S. Patent Application Serial No. **10/511,442**  
Amendment filed December 21, 2005  
Reply to OA dated June 21, 2005

c) a blowing agent including non-chlorinated pentafluorobutane and optionally water; d) a catalyst; and optionally one or more compounds selected from the group consisting essentially of chain extenders, surfactants, alcohols, fillers, pigments, antioxidants, stabilizers and mixtures thereof. (Brandoli'444 col.1, lines 55-67).

Nowhere in Brandoli is it disclosed that the blowing agent includes glycol compounds and/or amine compounds. Nor is there a discussion of the effect of evaporation reduction by glycol compounds and amine compounds on the blowing agent. While glycol compounds are mentioned in Brandoli, it is not with respect to the blowing agent. Instead such compounds are associated with the polyol component (col.3, lines 36-37); a surface active agent (col.5, lines 10-11); a crosslinking agent (col.5, line 51) or a catalyst (col.6, lines 54-58). As a result there is clearly no anticipation by Brandoli.

Similarly for EP 1 219 674 there is no mention that the blowing agent includes glycol compounds and/or amine compounds. For example, while glycol compounds are mentioned, there are not mentioned with respect to the blowing agent, rather they are mentioned in regards to initiators ([0012], line 19) or optional additives ([0015], line 36).

Without more disclosure it is impossible for either EP 1 219 674 or the Brandoli references to anticipate the invention as now claimed. Simply put there is absolutely no showing of a blowing agent comprising glycol compounds and/or amine compounds.

To emphasize the importance of the claimed blowing agent, the applicants are enclosing an Inventor's Declaration showing the effect of the addition of a glycol compound to the blowing

U.S. Patent Application Serial No. **10/511,442**  
Amendment filed December 21, 2005  
Reply to OA dated June 21, 2005

agent in two different trials, Sample C and Sample D. Sample D contains a glycol compound and the amount evaporated from Sample D is clearly less than Sample C. This establishes that the effect of the addition of a glycol compound has the effect of significantly reducing the evaporation of the blowing agent.

In light of the above showing and the empirical evidence in the Declaration, it is respectfully requested that the rejections be reconsidered and overcome.

**Claims 1, 5-13, 16, 17, 20, and 21 are rejected under 35 USC §102(b) as being anticipated by DE-198 22 944. (Office Action p.3)**

**Claims 1, 5-13, 16, 17, 20, and 21 are rejected under 35 USC §102(b) as being anticipated by Kruecke et al. (USP 6,080,799). (Office Action p.3)**

**Claims 1, 5-13, 16, 17, 20, and 21 are rejected under 35 USC §102(b) as being anticipated by Kruecke et al. (USP 6,380,275). (Office Action p.3)**

**Claims 1, 5-13, 16, 17, 20, and 21 are rejected under 35 USC §102(b) as being anticipated by JP-11-343326. (Office Action p.4)**

**Claims 1, 5-13, 16, 17, 20, and 21 are rejected under 35 USC §102(b) as being anticipated by JP-2003-206330. (Office Action p.4)**

Claims 1, 13 and 17 have been amended to incorporate the subject matter of claim 4

U.S. Patent Application Serial No. **10/511,442**  
Amendment filed December 21, 2005  
Reply to OA dated June 21, 2005

thereby making the rejection over DE-198 22 944, Kruecke'799, Kruecke'275, JP'326 and JP'330 now moot.

**Claims 1-21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-46 of copending Application No. 10/493,215.**

The applicants acknowledge the provisional obviousness-type double patenting rejection over co-pending application Serial No. 10/493,215. As of December 21, 2005 based on information from the Patent Office computer, PAIR, it appears that the copending application has not yet received the First Office Action. The applicants therefore note the rejection and recognize that a Terminal Disclaimer would not be appropriate at this stage.

In view of the aforementioned amendments and accompanying remarks, the claims, as amended, are in condition for allowance, which action, at an early date, is requested.

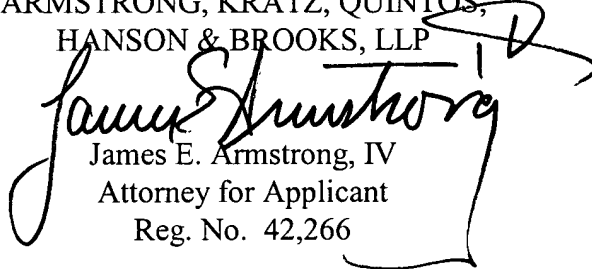
U.S. Patent Application Serial No. **10/511,442**  
Amendment filed December 21, 2005  
Reply to OA dated June 21, 2005

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, KRATZ, QUINTOS,  
HANSON & BROOKS, LLP

  
James E. Armstrong, IV  
Attorney for Applicant  
Reg. No. 42,266

Encls: Unexecuted Declaration (3 pages)

JAM/jam  
Atty. Docket No. **040550**  
Suite 1000  
1725 K Street, N.W.  
Washington, D.C. 20006  
(202) 659-2930



**23850**

PATENT TRADEMARK OFFICE

Q:\FLOATERS\JAMIE\04\040550\040550amd12-20